6AU4-GTA—19AU4-GTA

DIODE

FOR TV DAMPING DIODE APPLICATIONS

DESCRIPTION AND RATING

The 6AU4-GTA is a single heater-cathode type diode intended for service as the damping diode in the horizontal-deflection circuit of television receivers. Its high output current capabilities make the tube particularly well suited for operation in conjunction with the 6CD6-GA in autotransformer deflection systems. Except for increased maximum d-c output current and peak plate current ratings, the 6AU4-GTA is identical to the 6AU4-GT.

The 19AU4-GTA differs from the 6AU4-GTA by incorporating different heater ratings. In addition, the 19AU4-GTA as a result of its controlled heater warm-up characteristic, is especially suited for use in television receivers which employ series-connected heaters. When used in conjunction with other 600-milliampere types which exhibit essentially the same heater warm-up characteristic, heater voltage surges across the individual tubes are minimized during the warm-up period.

GENERAL

ELECTRICAL

<table>
<thead>
<tr>
<th></th>
<th>6AU4-GTA</th>
<th>19AU4-GTA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cathode—Coated Unipotential</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heater Voltage, AC or DC</td>
<td>6.3</td>
<td>18.9 Volts</td>
</tr>
<tr>
<td>Heater Current</td>
<td>1.8</td>
<td>0.6 Amperes</td>
</tr>
<tr>
<td>Heater Warm-up Time*</td>
<td></td>
<td>11 Seconds</td>
</tr>
<tr>
<td>Direct Interelectrode Capacitances, approximate†</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cathode to Plate and Heater</td>
<td>11.5 µf</td>
<td></td>
</tr>
<tr>
<td>Plate to Cathode and Heater</td>
<td>8.5 µf</td>
<td></td>
</tr>
<tr>
<td>Heater to Cathode</td>
<td>4.0 µf</td>
<td></td>
</tr>
</tbody>
</table>

MECHANICAL

Mounting Position—Any
Envelope—T-9, Glass
Base—B5-85 or B6-60, Short Intermediate Shell Octal

TERMINAL CONNECTIONS

Pin 1—No Connection‡
Pin 2—Internal Connection
Do Not Use
Pin 3—Cathode
Pin 5—Plate
Pin 7—Heater
Pin 8—Heater
‡ Pin 1 omitted on base B5-85

PHYSICAL DIMENSIONS

RETMA 9-44
MAXIMUM RATINGS

TV DAMPER SERVICE

DESIGN-CENTER VALUES UNLESS OTHERWISE INDICATED

Peak Inverse Plate Voltage .................................................. \( 4500\pi \) Volts
Plate Dissipation ............................................................. 6.0 Watts

Steady-State Peak Plate Current ......................................... 1150 Milliamperes
DC Output Current ............................................................. 190 Milliamperes

Heater-Cathode Voltage

Heater Positive with Respect to Cathode
DC Component ........................................................................ 100 Volts
Total DC and Peak ............................................................... 300 Volts

Heater Negative with Respect to Cathode
DC Component ........................................................................ 900 Volts
Total DC and Peak ............................................................... 4500\( \pi \) Volts

AVERAGE CHARACTERISTICS

Tube Voltage Drop
\( I_b = 350 \) Milliamperes DC ................................................... 25 Volts

* Heater warm-up time is defined as the time required in the circuit shown at the right for the voltage across the heater terminals to increase from zero to the heater test voltage \( V_1 \). For this type, \( E = 75 \) volts (RMS or DC), \( V_1 = 15.0 \) volts (RMS or DC), and \( R = 94.5 \) ohms.

† Without external shield.

§ For operation in a 525-line, 30-frame television system as described in “Standards of Good Engineering Practice Concerning Television Broadcast Stations,” Federal Communications Commission. The duty cycle of the voltage pulse must not exceed 15 percent of one scanning cycle.

\( \pi \) Value given is to be considered as an Absolute Maximum Rating. In this case, the combined effect of supply voltage variation, manufacturing variation including components in the equipment, and adjustment of equipment controls should not cause rated value to be exceeded.

Note: Socket terminals 1, 2, 4, and 6 should not be used. Operation of this tube as a power rectifier is not recommended.